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Course Code: W7101GS

Course Title: Exploratory Data Analysis for Machine Learning

### **Description:**

This first course in the IBM Machine Learning Professional Certificate introduces you to Machine Learning and the content of the professional certificate. In this course you will realize the importance of good, quality data. You will learn common techniques to retrieve your data, clean it, apply feature engineering, and have it ready for preliminary analysis and hypothesis testing.

### **Objectives:**

By the end of this course you should be able to:- Retrieve data from multiple data sources: SQL, NoSQL databases, APIs, Cloud. Describe and use common feature selection and feature engineering techniques.

- Handle categorical and ordinal features, as well as missing values.
- Use a variety of techniques for detecting and dealing with outliers.
- Articulate why feature scaling is important and use a variety of scaling techniques.

### **Prerequisites:**

To make the most out of this course, you should have familiarity with programming on a Python development environment, as well as fundamental understanding of Calculus, Linear Algebra, Probability, and Statistics.

### **Duration:**

8 Hrs

### **Topics:**

1. A Brief History of Modern AI and its Applications
2. Retrieving Data, Exploratory Data Analysis, and Feature Engineering
3. Inferential Statistics and Hypothesis Testing

### **Audience:**

This course targets aspiring data scientists interested in acquiring hands-on experience with Machine Learning and Artificial Intelligence in a business setting.